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To the taxonomy of the genus *Scathophaga* Meigen, 1803 (Diptera: Scathophagidae) with description of a new species

К таксономии двукрылых рода *Scathophaga* Meigen, 1803 (Diptera: Scathophagidae) с описанием нового вида

A.L. Ozerov[1,3], M.G. Krivosheina[2]
А.Л. Озеров[1,3], М.Г. Кривошеина[2]

[1]Zoological Museum, Moscow Lomonosov State University, Bol'shaya Nikitskaya 2, Moscow 125009, Russia. E-mail: ozerov2455@rambler.ru

[1]Зоологический музей, Московский государственный университет им. М.В. Ломоносова, Большая Никитская ул., 2, Москва 125009, Россия.

[2]A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Leninsky prospect, 33, Moscow 119071 , Russia. E-mail: dipteramarina@rambler.ru

[2]Институт проблем экологии и эволюции им. А.Н. Северцова РАН, Ленинский проспект, 33, Москва 119071, Россия.

[3]corresponding author

KEY WORDS: Diptera, Scathophagidae, *Scathophaga*, new species, new synonym, Azerbaijan, Russia.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, *Scathophaga*, новый вид, новый синоним, Азербайджан, Россия.

ABSTRACT. One species, *Scathophaga incompleta* sp.n. (Diptera: Scathophagidae), is described as new to science. One new synonym is proposed: *Scathophaga decipiens* (Haliday in Curtis, 1832) = *Scathophaga fluvialis* (Rondani, 1867), syn.n.

РЕЗЮМЕ. Приводится описание одного нового для науки вида — *Scathophaga incompleta* sp.n. (Diptera: Scathophagidae). Установлен один новый синоним: *Scathophaga decipiens* (Haliday in Curtis, 1892) = *Scathophaga fluvialis* (Rondani, 1867), syn.n.

Introduction

During the determination of the material on Scathophagid flies of the genus *Scathophaga* Meigen, 1803 kept in the Zoological Museum of the Moscow Lomonosov State University (ZMUM) we discovered two close species, which were determined firstly as *S. decipiens* (Haliday in Curtis, 1832) and *S. fluvialis* (Rondani, 1867). The original description of *S. decipiens* (as *Scatophaga decipiens*) is quite short and it is impossible to determine the species from it unambiguoosly [Curtis, 1832]. Other descriptions are absent. The original description of *S. fluvialis* (as *Scatina fluvialis*) is very short too [Rondani, 1967]. However Šifner [1969] gave more detalied and complete description of this species and made figures of male abdominal sternite 5 and male genitalia.

We decided to examine both species and loaned them from Museo di Storia Naturale dell'Universita Sezione di Zoologia La Specola, Firenze, Italia (MZLS) and Oxford University Museum of Natural History, Oxford, United Kindom (UMO). We also asked for the information about the type specimen of *S. decipiens* from Melbourne Museum (formerly: National Museum of Victoria), Melbourne, Australia (NMV).

Materail and methods

We got the next material: syntype male of *S. fluvialis* labelled "1439", "Museo la "Specola" / coll. Rondani / SYNTYPUS" (MZLS), syntype male of *S. fluvialis* labeled "Syntype", ''type", "*S. fluvialis* / ex. coll. Big.", "Syntype ♂ / *Scatina* / *fluvialis* / Rondani, 1867 / Conf. A.C. Pont, 2014" (UMO), and 3 males of *S. decipiens* labelled "Nflk [Norfolk] / Morston / 10.X.51", "Ex V-C Duplicates / Standing over / Scatophaga / dalmatica / Becker, 1984" (UMO). Genitalia of both syntypes of *S. fluvialis* and of one specimen of *S. decipiens* were studied.

Besides the photo of the syntype of *S. decipiens* from NMV was got (♂ with label as in Fig. 1: 28 May / Tolisby [north of England, county of Yorkshire]).

Dissected male genitalia were examined with a Nikon SMZ645 zoom stereomicroscope and then photographed using an eTREK DCM900 digital camera

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attached in place of an eyepiece of monocular microscope. Resulting batches of images were processed with CombineZP software, editing of stacked images was performed in Adobe Photoshop.

Results

All the abovementioned specimens were examined and proved to be conspecific. So, the name *Scatina fluvialis* Rondani, 1867 is a new junior synonym of *Scathophaga decipiens* (Haliday in Curtis, 1832).

The next specimens from Russia kept in the collections of ZMUM and ZISP are identical to the *S. decipiens*: 5 ♂♂, 3 ♀♀, labelled "Crimea, Kerch env. (45.2ºN 36.1ºE), 26.IV.2014, N. Vikhrev" (ZMUM); 1 ♂, labelled "Crimea, Ai-Petri (44.45ºN 34.05ºE), 1170 m, 28.IX.2015, N. Vikhrev" (ZMUM); 1 ♂, 4 ♀♀, labelled "Rostov Oblast, Kamensk-Shakhtinsky (48.293ºN 40.257ºE), 25.V.2011, D. Gavryushin" (ZMUM); 1 ♂, labelled "Crimea, Crimea Nature reserve (44.689ºN 34.205ºE), 1.IX.1929, Bukovsky" (ZISP); 1 ♂, labelled "Crimea, Tarchankut env. (45.350ºN 32.496ºE), 21.V.1913, Aleksandrov" (ZISP); and from **Ukraine**: 5 ♂♂, 2 ♀♀, labelled "Odessa env. (ca. 46.498ºN 30.678ºE), 16, 23 and 30.V.1926, L. Zimin" (ZISP).

We attributed a part of the specimens from Russia (Crimea as well as specimens collected in Kalmykia and Adygea) and from Azerbaijan (see below) to a new species. Its description is given below.

The morphological terminology used in the description follows McAlpine [1981], Cumming & Wood [2009] and Stuckenberg [1999].

Description of a new species

Scathophaga incompleta **sp.n.**

Figs 8–13.

MATERIAL. Holotype ♂, **Russia**: Kalmykia, Priyutnoe env. (46.1ºN 43.5ºE), 2–3.V.2013, N. Vikhrev (ZMUM). Paratypes: same labels (9 ♂♂, 9 ♀♀, ZMUM); **Russia**: Crimea, Ai-Petri (44.45ºN 34.05ºE), 1170 m, 28.IX.2015, N. Vikhrev (1 ♂, ZMUM); Crimea, Kerch env. (45.2ºN 36.1ºE), 26.IV.2014, N. Vikhrev (3 ♂♂, ZMUM); Crimea, Crimea Nature reserve (ca. 44.666ºN 34.238ºE), 24.VII.1936, V. Geptner (1 ♂, ZISP); Crimea, Dzhankoy (45.713ºN 34.396ºE), 19.V.1963, Gorodkov (3 ♂♂, ZMUM); Adygea, Lagonaki (44.050ºN 40.018ºE), 1830 m, 20–23.VI.2009, K. Tomkovich (1 ♂, ZMUM); **Azerbaijan**: Ceyranbatan reservoir (ca. 40.536ºN 49.664ºE), 17.X.1985, Nartshuk (2 ♂♂, ZISP).

DESCRIPTION. Male, female. Length of body 5.8–6.6 mm. Length of wing 5.6–7.0 mm.

Head. Frontal vitta yellow, matt; fronto-orbital plate blackish, densely pale grey dusted, ocellar triangle blackish. Face and gena yellow, densely whitish dusted. Postcranium blackish, densely pale grey dusted. Setae: 2–3 orbitals, 2–4 frontals, 1 ocellar, 1 postocellar, 1 inner vertical, 1 outer vertical; 1 pair of strong vibrissae and 2 pairs of subvibrissae present. Postcranium covered with white hairs in lower half. Antenna black; postpedicel about twice as long as wide. Arista black, bare. Palpus yellow.

Thorax black, densely pale grey dusted; scutum with a double brownish line down the middle, and an obscure one on each side. Acrostichals in two rows, not differentiated from the other hairs on scutum, 2 postpronotals, 2 notopleurals, 1+2 supra-alars, 1+(1–2) intra-alars (posterior postsutural intra-alar seta small, about 0.5 times as long as anterior one or absent) (Fig. 8), 2 postalars and 2+3 dorsocentrals. Proepisternum centrally and ventrally with whitish hairs, without strong setae ventrally. Proepimeron with whitish hairs. Anepisternum covered with hairs completely and with 2–3 strong setae along posterior margin. Katepisternum covered with hairs completely, covered with long whitish hairs posteriorly and with one strong seta in posterodorsal corner. Postmetacoxal bridge absent. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs. All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex: 1/4 in mid femur and 1/5–1/6 in fore and hind femora. All tibiae and tarsi yellow. Fore femur with whitish hairs, longer ventrally, with 4–5 dorsal setulae in apical third. Fore tibia with 2–3 dorsal, 3–4 posterodorsal, 1–2 posterior, 1 preapical posterodorsal, 1 apical posteroventral, 1 apical posterior setae. Mid femur with a row of anterodorsal setae, with 1 preapical posterodorsal and 1 preapical posterior setae. Mid tibia with 1–2 anterodorsal, 1–2 posterodorsal, 2 posterior (thin), 1 ventral (strong in female) setae, also with a ring of apicals. Hind femur with a row of dorsal/anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

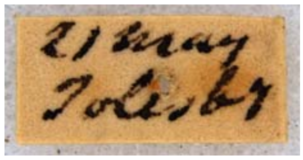
Wing clear, veins brownish. Vein R_1 bare. Calypters, margins of calypters, and halteres yellowish.

Abdomen black, densely pale grey dusted, covered with whitish hairs. Tergites 2–5 in male and tergiters 2–6 in female each with a row of marginal setae.

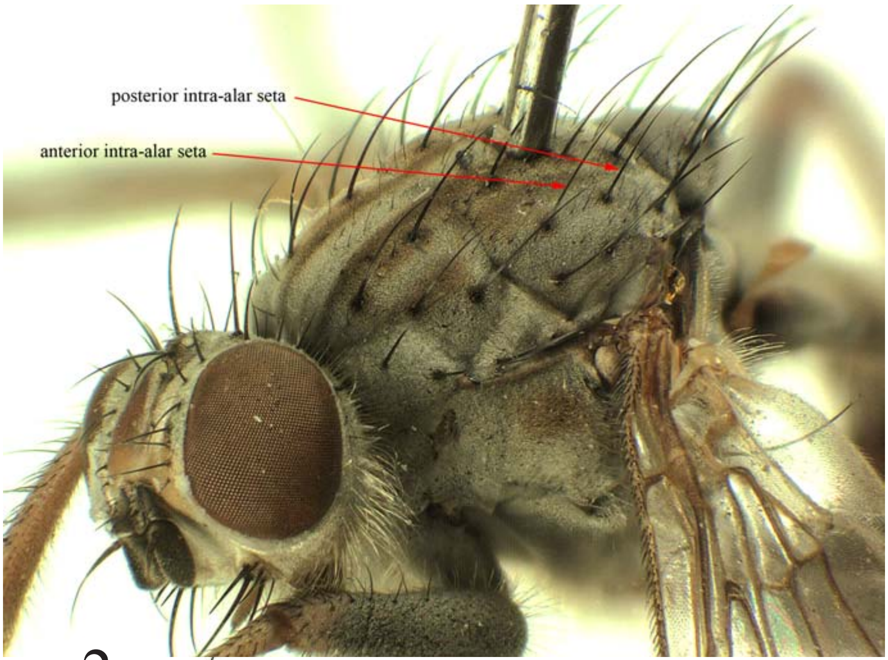
Male sternite 4 almost twice as long as wide (Fig. 9). Male sternite 5 with moderately long and narrow lobes, with a small projection medially between lobes (Fig. 10). Cercal plate longer than surstyli and narrowing to a slender incurved tip (Figs 12, 13). Aedeagus as in Fig. 11.

COMPARISON. The new species is similar to *S. decipiens* (Haliday) and *S. obscura* (Fallén, 1819) by the structure of cercal plate which is longer than surstylus and narrowing to a slender incurved tip.

In *S. obscura* intra-alar setae absent, often only one postrponotal seta present. Both the new species and *S. decipiens* have intra-alar setae and always with two postrponotal setae. The distinctions between *S. incompleta* and *S. decipiens* are the following: *S. decipiens* with two strong postsutural intra-alar setae (Fig. 2), *S. incompleta* with slender posterior postsutural intra-alar seta or without it (Fig. 8). The differences present in the structure of male aedeagus (compare Figs 5, 11), cercal plate (compare Figs 6,7 and 12,13) and male sternite 5 (compare Figs 4, 10).



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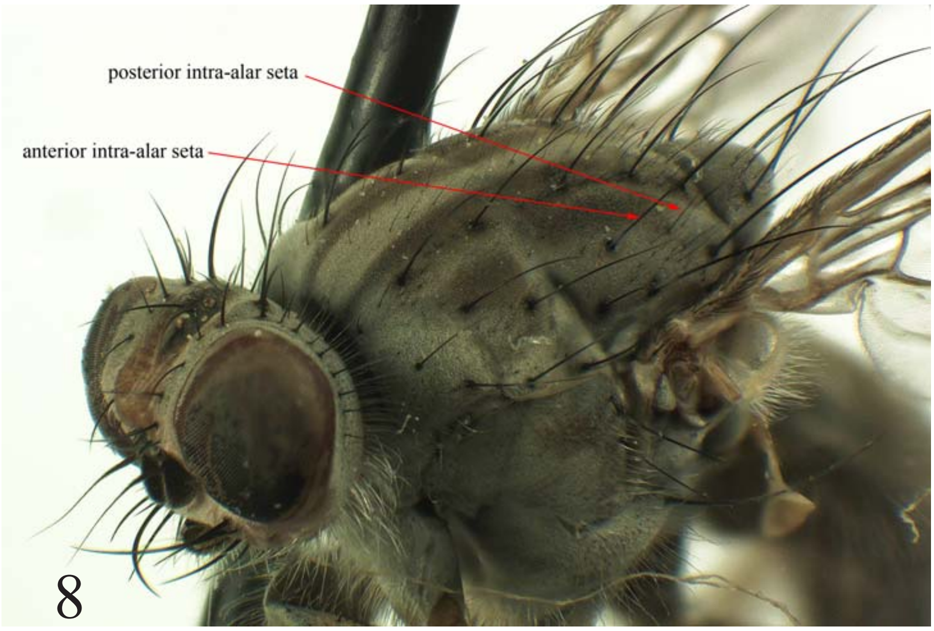
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Figs 1–7. *Scathophaga decipiens* (Haliday), ♂: 1 — syntype label of *S. decipiens* from NMV (photo by Simon Hinkley); 2 — thorax, lateral view; 3 — sternite 4; 4 — sternite 5; 5 — aedeagus, lateral view; 6 — epandrium, cercal plate and surstyli, lateral view; 7 — same, dorsal view.

Рис. 1–7. *Scathophaga decipiens* (Haliday), ♂: 1 — этикетка синтипа *S. decipiens* из NMV (фото Simon Hinkley); 2 — грудь, сбоку; 3 — стернит 4; 4 — стернит 5; 5 — эдеагус, сбоку; 6 — эпандрий, церки и сурстили, сбоку; 7 — то же, сверху.



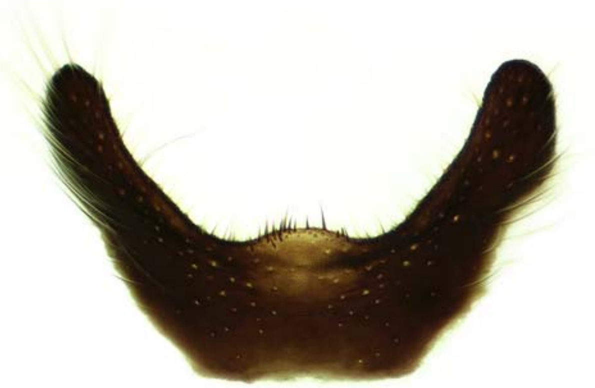
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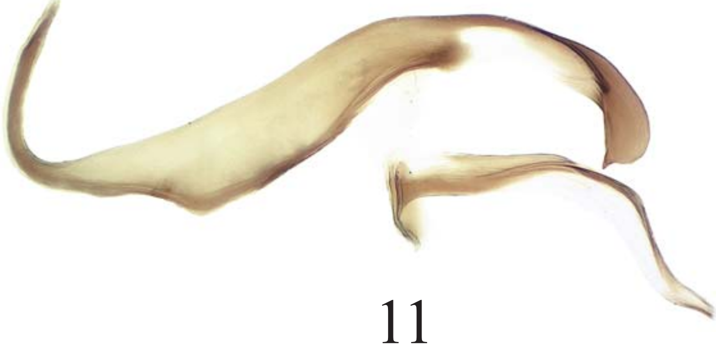
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Figs 8–13. *Scathophaga incompleta* sp.n., ♂: 8 — thorax, lateral view; 9 — sternite 4; 10 — sternite 5; 11 — aedeagus, lateral view; 12 — epandrium, cercal plate and surstyli, lateral view; 13 — same, dorsal view.

Рис. 8–13. *Scathophaga incompleta* sp.n., ♂: 8 — грудь, сбоку; 9 — стернит 4; 10 — стернит 5; 11 — эдеагус, сбоку; 12 — эпандрий, церки и сурстили, сбоку; 13 — то же, сверху.

DISTRIBUTION. Azerbaijan, Russia (Adygea, Crimea, Kalmykia).

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